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10/530,861

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EXAMINER

NGUYEN, LAUREN

ART UNIT

PAPER NUMBER

2871

MAIL DATE

DELIVERY MODE

10/30/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/530,861

**Applicant(s)**

FUKUSHIMA ET AL.

**Examiner**

Lauren Nguyen

**Art Unit**

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 5, 6 and 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 8 and 10-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*. See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Receipt is acknowledged of applicant's amendment filed on 07/23/2007.

Claims 1-4, 7-8, and 10-16 are pending for examination.

#### ***Response to Amendment***

1. Applicant's arguments with respect to claims 1-4, 7-8, and 10-16 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-3, 7, 10-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lipton (US 5,686,975)** in view of **Ma (US 6,020,941)**.
5. With respect to **claim 1**, **Lipton** (figures 1-3) discloses a parallax barrier device (303) comprising a barrier light-shielding part and a light-transmitting part (202 and 203) are formed in a gap between the pair of substrates (200A and 200B), a liquid crystal layer is formed in the barrier light-shielding part (202), and a resin layer having the property of transmitting light is formed in the light-transmitting part (203, see at least column 6, lines 44-50), the barrier light-shielding part separates light for a first image viewed from a first direction and light for a second image viewed

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from a second direction different from the first direction, and the light-transmitting part transmits the light for the first image and the light for the second image (figure 3).

**Lipton** discloses the limitations as shown in the rejection of **claim 1** above. However, **Lipton** fails to teach a pair of transparent-electrode substrates each provided with a transparent electrode. **Ma** (in at least column 6, lines 40-56, figure 2) teaches a pair of transparent-electrode substrates each provided with a transparent electrode. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the parallax barrier device of **Lipton** with the transparent electrodes of **Ma** since it was known in the art that using transparent electrodes are common practice to drive liquid crystal display devices.

6. With respect to **claim 2**, **Lipton** (figures 1-3) discloses the first image is viewed by a viewer's left eye, and the second image is viewed by the viewer's right eye (L and R, figure 3).

7. With respect to **claim 3**, **Lipton** (figures 1-3) discloses the barrier light-shielding part and the light-transmitting part are alternately arranged along a direction in a plane parallel to the pair of transparent-electrode substrates (202 and 203, figure 2A), and the width of the barrier light-shielding part in the direction in the plane is equal to the width of the light-transmitting part in the direction in the plane (see at least column 7, lines 15-16).

8. With respect to **claim 7**, **Lipton Ma** (in at least column 6, lines 40-56, figure 2) teaches the transparent electrode provided in each of the pair of transparent-electrode substrates is a common electrode.

9. With respect to **claim 10**, **Lipton** (figures 1-3) discloses the resin layer having the property of transmitting light also functions as a spacer for maintaining a uniform space between the pair of transparent-electrode substrates (203, figures 2A-2B; see at least column 6, lines 44-50).

10. With respect to **claim 11**, **Lipton** (figures 1-3) discloses a method for fabricating the parallax barrier device of claim 1, the method comprising the steps of: applying a resin material having an approximately isotropic refractive index and having the property of transmitting light onto the transparent-electrode substrates; and performing, on the resin material, processes of light exposure using a photo mask, development and baking, thereby forming the resin layer (203; see at least column 6, lines 51-67).

11. With respect to **claim 12**, **Lipton** (figures 1-3) discloses a display apparatus comprising: the parallax barrier device of claim 1 (303); and an image display device (301) including a first pixel part constituting the first image and a second pixel part constituting the second image (L and R, figure 3).

12. With respect to **claim 13**, **Lipton** (figures 1-3) discloses the first pixel part is a pixel part for a left eye, and the second pixel part is a pixel part for a right eye (L and R, figure 3).

13. With respect to **claim 14**, **Lipton** (figures 1-3) discloses a light source (300) placed at a larger distance from a viewer than those from the parallax barrier device and the image display device (301 and 303).

14. With respect to **claim 15**, **Lipton** (figures 1-3) discloses the liquid crystal layer (202) switches display between a first display and a second display by switching the state of light between opaque and transmission in accordance with an electric signal applied to the pair of transparent-electrode substrates (see at least column 7, lines 45-50).

15. With respect to **claim 16**, **Lipton** (figures 1-3) discloses the liquid crystal layer switches display between a stereoscopic display and a plane display by switching the state of light between opaque and transmission in accordance with an electric signal applied to the pair of transparent-electrode substrates. (see at least column 7, lines 45-50).

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16. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Lipton** in view of **Ma**, further in view of **Baek (US 2004/0004687)**.

17. With respect to **claim 4**, **Lipton** in view of **Ma** discloses the limitations as shown in the rejection of **claim 1** above. **Lipton** in view of **Ma** does not disclose the liquid crystal layer as claimed in **claim 4**. However, **Baek** (in at least paragraphs 0011 and 0021-0022) discloses the liquid crystal layer is a liquid crystal layer (23, figure 3) exhibiting homogeneous alignment and containing a liquid crystal material whose dielectric-constant anisotropy is positive, and the liquid crystal layer has a retardation of  $1/2$  of the wavelength of light entering the liquid crystal layer under application of no voltage. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid crystal layer of **Lipton** in view of **Ma** with the liquid crystal material of **Baek** since it was known in the art that using such liquid crystal layer is a known method of controlling the light going through the liquid crystal display devices.

18. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Lipton** in view of **Ma**, further in view of **Eichenlaub (U.S. Patent Number 6,157,424)**.

19. With respect to **claim 8**, **Lipton** in view of **Ma** discloses the limitations as shown in the rejection of **claim 1** above. **Lipton** in view of **Ma** does not disclose a pair of polarizers sandwiching the pair of transparent-electrode substrates therebetween, wherein the directions of transmission easy axes of the pair of polarizers are approximately parallel to each other. However, **Eichenlaub**, in at least column 6, lines 66-67; and column 7, and 1-4, figures 2 and 6, discloses a pair of polarizers (35 and 40) sandwiching the pair of transparent-electrode substrates (36 and 38) therebetween, wherein the directions of transmission easy axes of the pair of polarizers are approximately parallel to each other (see at least column 7, lines 1-4). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the parallax barrier device

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of **Lipton** in view of **Ma** with the pair of polarizers of **Eichenlaub** because such modification would provide a thinner, simpler, and less expensive device in which 2D image can be viewed without applying voltage to the barrier device and 3D image can be viewed by applying voltage to the barrier device (see at least column 7, lines 10-25).

### *Conclusion*


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lauren Nguyen whose telephone number is (571) 270-1428. The examiner can normally be reached on M-F, 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*Lauren Nguyen*

October 22, 2007

  
ANDREW SCHECHTER  
PRIMARY EXAMINER